

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 1-2, 5-6, 9-11, 13, and 15 have been amended. Claims 1-16 are pending and under consideration.

I. Rejection under 35 U.S.C. § 112

In the Office Action, at page 2, claims 1-2, 5-6, and 9-16 were rejected under the second paragraph of 35 USC § 112 as being indefinite. Various claims have been amended in response to this rejection. Accordingly, withdrawal of the § 112 rejection is respectfully requested.

II. Rejections under 35 U.S.C. § 103

In the Office Action, at pages 2-5, claims 1-16 were rejected under 35 USC § 103(a) as being unpatentable over Vos (U.S. Patent No. 4,849,927) in view of Debey (U.S. Patent No. 5,701,582).

Vos does not discuss or suggest:

- a first storage unit;

- a processor configured to execute a program written in the first storage unit;

- a second storage unit configured to store a plurality of encrypted program segments into which the program is divided; and

- a secure module capable of performing operations of:

- receiving each of the encrypted program segments stored in the second storage unit;

- returning each of the received encrypted program segments to an executable state;

- writing each of the encrypted program segments, which have each been returned to the executable state, in the first storage unit in a sequence for the processor to execute; and

- deleting each of the returned encrypted program segments, which have each been executed by the processor, from the first storage unit after execution is completed,

- wherein the processor transmits the encrypted program segments stored in the second storage unit to the secure module,

as recited in claim 1. The invention of claim 1 provides for deleting (the claimed "deleting") encrypted program segments that have been returned to the first storage unit by the secure

module (the claimed "writing") after these segments have been returned to an executable state (the claimed "retuning"). Vos, as relied on by the Examiner at col. 2, lines 45-49, provides for transferring the controlling firmware stored in the second storage means into the program memory only if there is a valid comparison. Otherwise, if there is an invalid comparison, the controlling firmware stored in the second storage means is erased. As such, if there is an invalid comparison, the controlling firmware is not transferred to the program memory before it is erased. This is in contrast to claim 1, as described above, which provides for deleting (the claimed "deleting") encrypted program segments that have been returned to the first storage unit by the secure module (the claimed "writing") after these segments have been returned to an executable state (the claimed "retuning"). Furthermore, Debey fails to make up for the deficiency in Vos.

Since the combination of Vos and Debey does not discuss or suggest all of the features of claim 1, claim 1 patentably distinguishes over Vos and Debey. Accordingly, withdrawal of this § 103(a) rejection is respectfully requested.

Claims 2-4 depend either directly or indirectly from claim 1, and include all the features of claim 1, plus additional features that are not discussed or suggested by the references relied upon. Therefore, claims 2-4 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of these § 103(a) rejections is respectfully requested.

The combination of Vos and Debey does not discuss or suggest:

- a first storage unit;
- a processor configured to execute a program written in the first storage unit;
- a second storage unit configured to store a plurality of encrypted program segments into which the program is divided and rewrites itself with invalid code just before the program is completed; and
- a secure module capable of performing operations of:
 - receiving each of the encrypted program segments stored in the second storage unit;
 - returning each of the received encrypted program segments to an executable state;
 - writing each of the encrypted program segments, which have each been returned to the executable state, in the first storage unit in a sequence for the processor to execute; and
 - deleting each of the returned encrypted program segments, which have each been executed by the processor, from the first storage

unit after execution is completed,
wherein the processor transmits the encrypted program segments
stored in the second storage unit to the secure module,
as recited in claim 5, so that claim 5 patentably distinguishes over Vos and Debey. Accordingly,
withdrawal of the § 103(a) rejection is respectfully requested.

Claims 6-8 depend either directly or indirectly from claim 5, and include all the features of
claim 5, plus additional features that are not discussed or suggested by the references relied
upon. Therefore, claims 6-8 patentably distinguish over the references relied upon for at least
the reasons noted above. Accordingly, withdrawal of these § 103(a) rejections is respectfully
requested.

The combination of Vos and Debey does not discuss or suggest:

- a first storage unit;
- a processor configured to execute a program written in the first
storage unit;
- a second storage unit configured to store an encrypted program;
and
- a secure module capable of performing operations of:
 - receiving the encrypted program stored in the second storage unit;
 - dividing the received encrypted program into a plurality of
encrypted programs segments;
 - returning each of the encrypted program segments to an
executable state;
 - writing each of the encrypted program segments, which have been
returned to the executable state, in the first storage unit in a
sequence for the processor to execute; and
 - deleting each of the returned encrypted program segments, which
have been executed by the processor, from the first storage unit
after execution is completed,
- wherein the processor transmits the program stored in the second
storage unit to the secure module,

as recited in claim 9, so that claim 9 patentably distinguishes over Vos and Debey. Accordingly,
withdrawal of the § 103(a) rejection is respectfully requested.

Claim 10 depends directly from claim 9, and includes all the features of claim 9, plus
additional features that are not discussed or suggested by the references relied upon.
Therefore, claim 10 patentably distinguishes over the references relied upon for at least the
reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

The combination of Vos and Debey does not discuss or suggest:

- a first storage unit;
- a processor configured to execute a program written in the first storage unit;
- a second storage unit configured to store an encrypted program;
- and
- a secure module capable of performing operations of:
 - receiving the encrypted program stored in the second storage unit;
 - dividing the received encrypted program into a plurality of encrypted program segments and making each of the plurality of encrypted program segments to be a program that rewrites itself with an invalid code just before the program is completed;
 - returning each of the encrypted program segments to an executable state; and
 - writing each of the encrypted program segments, which have been returned to the executable state, in the first storage unit in a sequence for the processor to execute,
- wherein the processor transmits the program stored in the second storage unit to the secure module,

as recited in claim 11, so that claim 11 patentably distinguishes over Vos and Debey.

Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

Claim 12 depends directly from claim 11, and includes all the features of claim 11, plus additional features that are not discussed or suggested by the references relied upon.

Therefore, claim 12 patentably distinguishes over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

The combination of Vos and Debey does not discuss or suggest:

- a first storage unit where a plurality of encrypted program segments, into which an encrypted program has been divided, are kept resident before execution;
- a processor configured to execute each of the encrypted program segments written in the first storage unit;
- a second storage unit configured to store an encrypted call program that calls the encrypted program segments as an execution program; and
- a secure module capable of performing operations of:
 - receiving the call program stored in the second storage unit;
 - returning the received call program to an executable state;
 - writing the call program, which has been returned to a

corresponding executable state, in the first storage unit in a sequence for the processor to execute a divided program; and deleting the returned call program, which has been executed by the processor, from the first storage unit after execution is completed,

wherein the second storage unit transmits the call program stored in the second storage unit to the secure module,

as recited in claim 13, so that claim 13 patentably distinguishes over Vos and Debey.

Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

Claim 14 depends directly from claim 13, and includes all the features of claim 13, plus additional features that are not discussed or suggested by the references relied upon.

Therefore, claim 14 patentably distinguishes over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

The combination of Vos and Debey does not discuss or suggest:

a first storage unit where a plurality of encrypted program segments, into which an encrypted program has been divided, are kept resident before execution;

a processor configured to execute the encrypted program segments written in the first storage unit;

a second storage unit configured to store an encrypted call program, which calls the encrypted program segments just before each program is completed as each execution program that rewrites itself with invalid code; and

a secure module capable of performing operations of:

receiving the call program stored in the second storage unit;

returning the received call program to an executable state; and

writing the call program, which has been returned to the corresponding executable state, in the first storage unit in a sequence for the processor to execute program segments;

wherein the second storage unit transmits the call program stored in the second storage unit to the secure module,

as recited in claim 15, so that claim 15 patentably distinguishes over Vos and Debey.

Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

Claim 16 depends directly from claim 15, and includes all the features of claim 15, plus additional features that are not discussed or suggested by the references relied upon.

Therefore, claim 16 patentably distinguishes over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

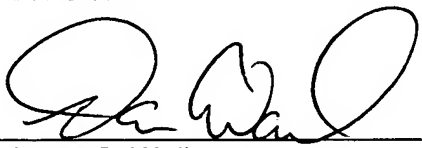
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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